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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/664,361	09/18/2000	Youichi Tobita	197211US2	3955

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OBLON SPIVAK MCCLELLAND MAIER & NEUSTADT PC
FOURTH FLOOR
1755 JEFFERSON DAVIS HIGHWAY
ARLINGTON, VA 22202

EXAMINER

ALCALA, JOSE H

ART UNIT PAPER NUMBER

2827

DATE MAILED: 10/03/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/664,361

Applicant(s)

TOBITA, YOUICHI

Examiner

Jose H Alcala

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 September 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ 6) ☐ Other: ____.

DETAILED ACTION

Drawings

1. Figures are improperly crosshatched. All of the parts shown in the section, and only those parts, must be crosshatched. The crosshatching patterns should be selected from those shown on page 600-81 of the MPEP based on the material of the part. See also 37 CFR 1.84(h)(3) and MPEP 608.02. Crosshatching for conductive layers and dielectric layers in Figures needs to be changed according to the MPEP section specified above.
2. Figures 15-22 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6 are JHA 9/31/02

4. ~~Claim 1~~ is rejected under 35 U.S.C. 103(a) as being unpatentable over

Applicant's Admitted Prior Art in view of Japanese document 4-170788.

Regarding Claim 1, Applicant's Admitted Prior Art teaches a multilayered wiring substrate (Reference number 100P), comprising: a plurality of multilayered wiring layers (Reference numbers 31, 33, 32, 34), at least one of said multilayered wiring layers containing a signal wiring group (Reference numbers 31 and 33) made by a plurality of signal wirings disposed in parallel with one another, but fails to teach dummy wirings disposed outside said signal wiring group in parallel to said signal wirings, at least one of said dummy wirings being disposed at each side of said signal wiring group.

Japanese document 4-170788 teaches dummy wirings 10A and 10B disposed outside a memory array, at least one of said dummy wirings being disposed at each side a memory array. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Applicant's Admitted Prior Art and Japanese document 4-170788, in order to have dummy wirings disposed outside said signal wiring group in parallel to said signal wirings, at least one of said dummy wirings being disposed at each side of said signal wiring group, thus raising the level of the wirings in order to be more stable to receive a device to be connected to it.

Regarding Claim 2, Applicant's Admitted Prior Art teaches through holes (Reference number 40ab, bc, etc.) formed in a stacking direction of said wiring layers and disposed in each clearance between said signal wirings; and conductive layers disposed inside said through holes, but fails to teach a dummy through hole extending in said stacking direction, disposed adjacent to said dummy wiring on the side on which said signal wiring group is present and conductive layers disposed inside said dummy through holes. Japanese document 4-170788 teaches a dummy through hole extending

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in said stacking direction, disposed adjacent to said dummy wiring on the side on which said signal wiring group is present and conductive layers disposed inside said dummy through holes. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Applicant's Admitted Prior Art and Japanese document 4-170788, in order to have a dummy through hole extending in said stacking direction, disposed adjacent to said dummy wiring on the side on which said signal wiring group is present and conductive layers disposed inside said dummy through holes, thus electrically connecting different layers of the device.

Regarding Claims 3 and 4, Applicant's admitted prior art as modified by Japanese document 4-170788 teach that the conductive layer in said dummy through hole is electrically connected to said conductive layer in any one of said through holes and that the said conductive layer in said dummy through hole is electrically connected to said dummy wiring.

Regarding Claim 5, Applicant's admitted prior art as modified by Japanese document 4-170788 fails to explicitly teach at least one resistance having approximately the same impedance as a characteristic impedance of said dummy wiring, and being electrically connected to an end or central part of said dummy wiring. It is well known in the art to attach devices to circuit boards, each device having specific resistive and inductive properties. It would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify the combination, in order to have at least one resistance having approximately the same impedance as a characteristic

impedance of said dummy wiring, and being electrically connected to an end or central part of said dummy wiring, thus attaching any element desired to the board..

Regarding Claim 6, Applicant's admitted prior art teaches at least one terminal (Reference number 52) for connecting a terminating resistance connected electrically to an end or central part of said dummy wiring.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jose H Alcala whose telephone number is (703) 305-9844. The examiner can normally be reached on Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Talbott can be reached on (703) 305-9883. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3431 for regular communications and (703) 305-3431 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

JHA
October 1, 2002

Albert W. Paladini 10-1-02
ALBERT W. PALADINI
PRIMARY EXAMINER